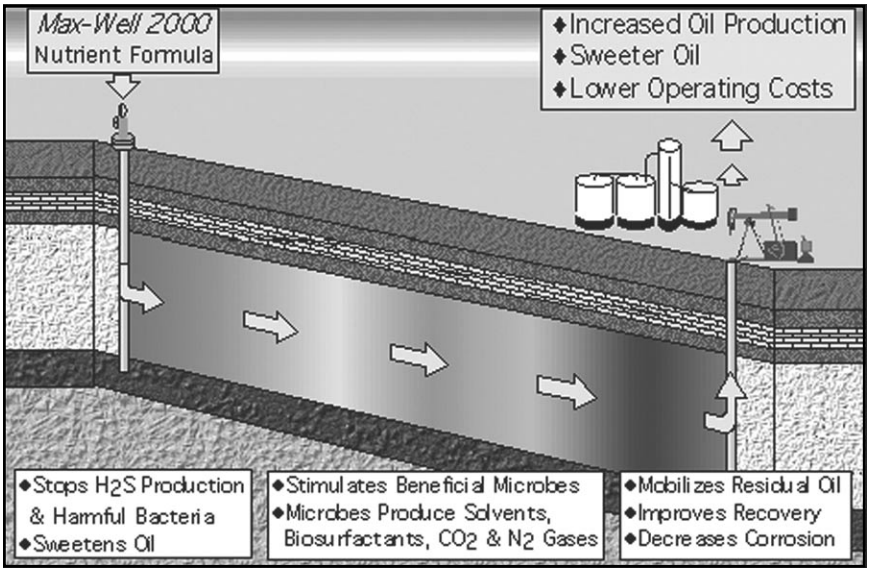
New Technology for Sulfide Reduction and Increased Oil Recovery

Bio-Competitive Exclusion Process Produces More Oil and Reduces Corrosion

Traditional methods of recovering tertiary oil are effective but costly for widespread use in the oil industry. The LATA Group, a division of Geo-Microbial Technologies, Inc., with the aid of a grant from the Department of Energy's Inventions and Innovation Program, has developed and commercialized a new process to reduce hydrogen sulfide and increase oil recovery. The new Bio-Competitive Exclusion (BCX) process works by setting off a chain of events that benefit oil and gas well operations.

The BCX process is initiated and perpetuated by a product called Max-Well 2000 in which inorganic nutrients are custom designed to stimulate and harness the power of targeted beneficial microorganisms that live in virtually every oil and gas reservoir. These bacteria grow rapidly, out competing harmful sulfate-reducing bacteria (SRB) for basic carbon nutrients. The SRB are inhibited from producing new hydrogen sulfide and iron sulfide. Existing sulfides are removed by inorganic reactions and bacterial degradation, both a result of Max-Well treatments. The rapid growth of the beneficial bacteria also produces solvents, surfactants, carbon dioxide, and nitrogen, all of which act to mobilize trapped oil within the reservoir.

The result is increased revenue, improved quality and higher-value oil, reduced costs from corrosion, and safer working conditions. Periodic applications of low-cost Max-Well products enable oil producers to recover the enormous residual oil resource more economically than with other methods.



BCX Process

Overview

- Developed and marketed by the LATA Group, a division of Geo-Microbial Technologies, Inc.
- Commercialized in 1997
- Growing sales volume despite historical market resistance to biological technologies

Applications

The petroleum industry for both oil and gas wells as an alternative to costly traditional methods of tertiary oil recovery

Capabilities

- Increases oil recovery in secondary and tertiary oil recovery operations.
- Reduces sulfides in reservoir wells, pipelines, produced water facilities, and gas storage.

Benefits

Energy and Environmental Savings

Significantly increases oil production at a reduced cost and prevents the production of poisonous and corrosive hydrogen sulfide in oil and gas production systems.

Productivity/Waste Reduction

Mobilizes residual oil and improves secondary and tertiary recovery to minimize the amount of oil rendered unavailable by traditional methods.

Profitability

Enables oil producers to recover the enormous residual oil resource missed by standard production methods.

Worker Safety and Health

Prevents the production of poisonous and corrosive hydrogen sulfide in oil and gas systems, creating safer working conditions.

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